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[New Hampshire Code of Administrative Rules](#)
[Chapter Env-WS 1100](#)

NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES

CHAPTER Env-Ws 1100 SWIMMING POOLS, BATHING PLACES, SPAS, WATER SLIDES, JUVENILE CAMPS AND SPECIAL RECREATION POOLS

Statutory Authority: RSA 485-A:26

PART Env-Ws 1101 PURPOSE AND SCOPE

Env-Ws 1101.01 Purpose. RSA 485-A:26 provides for the adoption of rules by the commissioner of the department of environmental services to set forth the conditions that the department shall require to:

- (a) Issue approval of the installation, operation and maintenance of public bathing places in New Hampshire; and
- (b) Enforce standards to protect water quality and the health and safety of persons using said bathing places.

Source. #221.14, as in effect 8-31-73; ss by #2139, eff 9-23-82; ss by #2872, eff 10-3-84; ss by #5045, eff 1-16-91; ss by #6420, INTERIM, eff 1-17-97, EXPIRED: 5-17-97

New. #6542, eff 7-18-97

Env-Ws 1101.02 Scope. These rules shall apply to all public bathing places as defined in these rules.

Source. #221.14, as in effect 8-31-73; ss by #2139, eff 9-23-82; ss by #2872, eff 10-3-84; ss by #5045, eff 1-16-91; ss by #6420, INTERIM, eff 1-17-97, EXPIRED: 5-17-97

New. #6542, eff 7-18-97

PART Env-Ws 1102 DEFINITIONS

Env-Ws 1102.01 Definitions.

- (a) “Bromine” means an element which is sometimes used in bathing facility water purification. A dark, heavy, reddish-brown liquid in its natural state, bromine is closely related to chlorine.
- (b) “Bromine equivalent to chlorine” means the concentration of bromine equal to that of chlorine. This value can be calculated by multiplying parts per million (ppm) or milligrams per liter (mg/L) chlorine by 2.25.
- (c) “Cartridge filter” means a filter that uses a fabric-like cartridge as a filtering medium.
- (d) “Chloramines” mean compounds formed when free chlorine combines with nitrogen or ammonia from substances including but not limited to urine, suntan oils, hair spray or perspiration. The formation of chloramines can cause skin and eye irritation and has a strong, objectionable odor.
- (e) “Chlorine” means a heavy, green, highly poisonous gas in its elemental, or naturally occurring, state. Compressed in liquid form and stored in heavy steel tanks, hypochlorite can be used in bathing facilities as a

disinfectant.

(f) “Chlorine demand” means the amount of chlorine needed to oxidize organic matter present in bathing facility water, such as chloramines, susceptible bacteria and algae.

(g) “Chlorine residual” means the amount of available chlorine remaining in bathing facility water after the chlorine demand has been satisfied.

(h) “Communicable disease” means illness due to an infectious agent or its toxic products, which may be transmitted directly or indirectly to any person from an infected person, animal, or arthropod, including insects and arachnida, or through the vehicle of an intermediate host, vector or the inanimate environment.

(i) “Deck” means the area immediately adjacent to or attached to a bathing facility that is specifically constructed for use by patrons for sitting, standing or walking.

(j) “Diatomaceous filter” means a pressure or vacuum type filter that uses a white powder derived from fossilized organisms called diatoms as a filtering medium.

(k) “Division” means the division of water of the department of environmental services of the state of New Hampshire.

(l) “Fence” means a structural safety boundary intended to prevent unauthorized entry from the outside, not intended to be sat, walked, or climbed on.

(m) “Flow-through pool” means a natural or artificial pool to which the water is piped by pump or by gravity but water flow from the pool is not returned to the pool.

(n) “Free residual chlorine” means that portion of the total chlorine remaining in chlorinated water that is not bound in chloramines and will react chemically with undesirable or pathogenic organisms.

(o) “Heterotrophic Plate Count (HPC)” means a laboratory test for culturing and quantifying primary indicators of disinfection efficiency and for determining compliance with drinking water standards. Indicators of health risk include normal skin flora such as Streptococcus, Staphylococcus, and Pseudomonas that are likely to be shed in oils, saliva and mucus discharges.

(p) “Hypochlorite” means a family of chemical compounds such as calcium hypochlorite, lithium hypochlorite, sodium hypochlorite, used as a chlorine carrier in public bathing facility water.

(q) “Milligrams per liter (mg/L)”, means a unit of concentration indicating the number of milligrams of a substance in a liter of liquid, and which is the equivalent of parts per million (ppm).

(r) “Natural bathing place” means a bathing place that depends on natural flow or upon temperature, wind and wave action for circulation of water. This term includes oceans, lakes, rivers and tidal waters.

(s) “pH” means the relative acidity or basicity of a substance, such as water, as indicated by the hydrogen ion concentration and pH is expressed as a number on the scale of 0 to 14, 0 being most acidic, 7 being neutral and 14 being most basic.

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(t) “Pressure-type sand filter” means a filter that uses sand or sand and gravel as the filtering medium, through which pool water is pumped under pressure.

(u) “Pseudomonas aeruginosa” means a bacteria relatively resistant to chlorine and bromine occasionally pathogenic or disease causing in man, responsible for hospital infections that are very difficult to treat because of the bacteria’s resistance to antibiotic therapy.

(v) “Public bathing facility” means a swimming pool, spa or special recreation pool operated for any municipality, governmental subdivision, public or private corporation, partnership, association or educational institution open to the public, members or students, whether on a fee or free basis, together with buildings and equipment. This includes, but is not limited to, town public bathing facilities, public bathing facilities at hotels, motels, health facilities, water parks, condominium complexes, apartment complexes and public campgrounds.

(w) “Public bathing place” means a public bathing facility or natural or semi-natural bathing place, operated for any municipality, governmental subdivision, public or private corporation, partnership, association or educational institution open to the public, members or students, whether on a fee or free basis, together with buildings and equipment. This includes, but is not limited to town public bathing places, public bathing places at hotels, motels, health facilities, water parks, condominium complexes, apartment complexes and public campgrounds.

(x) “Semi-natural bathing place” means a pool formed by damming up all or portions of surface waters. Such pools depend upon the flow of surface water for circulation and can have a natural or artificial bottom.

(y) “Skimmer” means a mechanical device connected to the recirculation piping for continuous removal of surface water and floating debris from a public bathing facility.

(z) “Spa” means a body of water, sometimes called a hot tub or jacuzzi, that is designed for recreational and therapeutic use and for physiological and psychological relaxation. These facilities are not drained and refilled after each use; the water is circulated, filtered and sanitized. Spas include hydrojet circulation, hot water, cold water, mineral baths and air induction systems and are not for swimming or diving.

(aa) “Special recreation pool” means a body of water which is not intended for swimming or diving but used typically for receiving bathers at the end of long slides or chutes or for artificial surfing and similar use.

(ab) “Swimming pool” means a body of water that is entirely artificial in construction and has the pool water circulated through it by mechanical pumps and clarified by filtration before being returned to the pool, and is either indoor, outdoor, or both.

(ac) “Total chlorine” means the sum of both free residual chlorine and chloramines.

(ad) “Total coliform bacteria” means a group of bacteria defined as gram negative, aerobic or facultatively anaerobic, nonspore-forming rods that ferment lactose in 48 hours at 95 EF (35 EC) with gas production by the most probable number (MPN) methodology. Total coliforms are used to measure the quality of potable water, shellfish harvesting waters and to determine the quality of recreational waters because finding coliforms in these waters is interpreted as a degradation of the quality of the water, and therefore a potential health hazard to users or to consumers.

(ae) “Wading pool” means an artificially constructed body of water that has a maximum depth of 2 feet.

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Source. #221.14, as in effect 8-31-73; ss by #2139, eff 9-23-82; ss by #2872, eff 10-3-84; ss by #5045, eff 1-16-91; ss by #6420, INTERIM, eff 1-17-97, EXPIRED: 5-17-97

New. #6542, eff 7-18-97 (from Env-Ws 1101.02)

PART Env-Ws 1103 PUBLIC BATHING PLACE CONSTRUCTION, MAINTENANCE AND WATER QUALITY

Env-Ws 1103.01 Waivers. Where strict compliance with these rules would result in a design which is not in the best interest of public health or the environment, the division shall, upon request, waive the rule in accordance with the following:

- (a) A request for a waiver shall be submitted by the owner or his authorized representative; and
- (b) A request for a waiver shall include the following:
 - (1) A reference to the rule for which a waiver is requested;
 - (2) An explanation of why the waiver is necessary;
 - (3) A proposed alternative method, procedure or design; and
 - (4) Supporting data for the proposed alternative method, procedure or design.

Source. #2872, eff 10-30-84; ss by #5045, eff 1-16-91; ss by #6420, INTERIM, eff 1-17-97, EXPIRED: 5-17-97

New. #6542, eff 7-18-97

Env-Ws 1103.02 Plans to be Approved.

(a) Pursuant to RSA 485-A:26, no person shall install, operate, or maintain a public bathing facility unless the construction, design and physical specifications of such public bathing facility have received prior approval by the division.

(b) The application, plans and specifications required in paragraph (c) below shall be submitted on a form obtained from the division.

(c) Any person desiring to receive approval for a public bathing facility shall submit the following for each facility to the division:

(1) An application containing the following information:

- a. Location, town or city, of the public bathing facility;
- b. Name of establishment at which the public bathing facility is located;
- c. Street address where the public bathing facility is located;
- d. City, state and zip code where the public bathing facility is located;
- e. Type of public bathing facility, pool, spa, wading or special recreation pool;
- f. Location, indoor or outdoor, of the public bathing facility;
- g. Name, address and phone number of the owner of the public bathing facility and name, address, and phone number of the public bathing facility designer and builder if known;
- h. Capacity in gallons;
- i. Material of construction;
- j. Shallow end depth;
- k. Maximum depth at deep end;
- l. Depth at wall of deep end or 12 inches out, whichever is deeper;
- m. Depth at break in depth between the shallow and deep portions of a swimming pool;
- n. Depth measured 22 feet from deep end wall;
- o. Slope of shallow end bottom;
- p. Distance from deep end wall to break in depth between the shallow and deep portions of a swimming pool;

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- q. Distance from diving board(s) to side walls;
- r. Perimeter of bathing facility in feet (ft.);
- s. Number of inlets;
- t. Area of bathing facility in square feet (sq. ft.);
- u. Number of skimmers;
- v. Availability of a 2-inch equalizer pipe at bottom of skimmer;
- w. The presence of a gutter system;
- x. Type of disinfection;
- y. Manufacturer of and manufacturer's literature on the disinfection unit;
- z. Capacity of disinfection unit in milligrams per liter (mg/L);
- aa. Model of disinfection unit;
- ab. Pump recirculation rate in gallons per minute (g.p.m.);
- ac. Turnover time in hours (hrs.);
- ad. Type of filter;
- ae. Manufacturer of and manufacturer's literature on the filter;
- af. Model of filter;
- ag. Total filter area in sq. ft.;
- ah. Filtration rate in g.p.m.;
- ai. Filter flow meter range in g.p.m.;
- aj. Filter flow meter manufacturer;
- ak. The presence of hair strainers;
- al. The availability of filter operating instructions;
- am. The availability to the facility operator of a water quality testing kit with fresh dated reagents capable of testing for free and total chlorine or bromine, pH and temperature;
- an. Type of source water supply;

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- ao. If source water is public, report if DES has performed a standard sanitary analysis of it;
- ap. Type of source water piping;
- aq. Location of disposal site for backwash, if filter is back washed;
- ar. The availability of a bathhouse with toilet and shower facilities;
- as. Provisions for security fencing;
- at. Availability of marked depths along the pool deck; and
- au. The presence of a rope with floats at the break in depth between the shallow and deep portions of a swimming pool;

(2) Plans showing the following:

- a. A simple layout of the buildings, bathing area and water supply;
- b. A plan drawn to scale showing bathing facility dimensions, diving board(s), skimmer locations, returns, spacing of gutter or deck drains, size and material of piping, fill-spout and main drain(s);
- c. Longitudinal-section of entire pool and cross-section of deep end showing depths and slopes;
- d. Filter room piping in detail; and
- e. Specifications of facility equipment.

(d) The division shall review the application, plans and specifications in accordance with the following criteria and, if all criteria are met, shall issue its approval in writing:

(1) The applicant shall submit all of the required materials for review; and

(2) The proposed public bathing place shall be designed, constructed and maintained in accordance with Env-Ws 1101-1105.

(e) A fee of \$100.00, as required by RSA 485-A:26, shall be charged for the review of the application, plans and specifications of each facility.

Source. #221.14, as in effect 8-3-73; ss by #2139, eff 9-23-82; ss by #2872, eff 10-30-84; ss by #5045, eff 1-16-91; ss by #6420, INTERIM, eff 1-17-97, EXPIRED: 5-17-97

New. #6542, eff 7-18-97 (formerly Env-Ws 1101.03)

Env-Ws 1103.03 Inspection and Improvements.

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(a) The division shall conduct such inspections necessary to ensure compliance with all provisions of these rules and shall have right of entry to public bathing places and accompanying facilities for this purpose.

(b) If the operational or sanitary conditions of a public bathing place do not comply with these rules, a representative of the department shall:

(1) Order change(s) necessary to place such public bathing place in compliance with these rules; and/or

(2) Close the public bathing place, if conditions are unsafe for public use, in accordance with RSA 541-A:30 III.

(c) When a notice to close a public bathing place is issued by the division, said notice shall be posted by the owner, operator, or licensee at the entrance to the bathing area.

Source. #6542, eff 7-18-97 (formerly Env-Ws 1101.04)

Env-Ws 1103.04 Location, Construction and Maintenance. Public bathing places shall be located, constructed, maintained and operated safely for patrons, in accordance with these rules.

Source. #6542, eff 7-18-97 (formerly Env-Ws 1101.05)

Env-Ws 1103.05 Showers.

(a) Shower facilities shall be provided at all public bathing facilities.

(b) One shower for every 40 swimming pool bathers shall be provided.

(c) A minimum of one shower for each spa shall be provided.

(d) Showers shall be of such design that a safe mixture of hot and cold water can be obtained through a mixing valve.

(e) A cleansing shower shall be taken before entering any public bathing facility.

Source. #6542, eff 7-18-97 (from Env-Ws 1102.01)

Env-Ws 1103.06 Towels. All towels used by patrons of public bathing places and maintained for public use shall be washed and disinfected or machine dried after each use. These items shall be maintained in a sanitary manner.

Source. #6542, eff 7-18-97 (formerly Env-Ws 1102.05)

Env-Ws 1103.07 Dressing Rooms. Dressing rooms shall be kept in a sanitary condition at all times.

Source. #6542, eff 7-18-97 (formerly Env-Ws 1101.07)

Env-Ws 1103.08 Toilets.

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(a) Toilet facilities, conveniently located for use immediately before entering a public bathing facility, shall be provided for both sexes.

(b) One toilet and one urinal for every 60 males and one toilet for every 40 females shall be provided at all public bathing facilities.

Source. #6542, eff 7-18-97 (formerly Env-Ws 1101.08)

Env-Ws 1103.09 Trash Receptacles. Enclosed trash receptacles shall be provided in dressing room and bathing areas.

Source. #6542, eff 7-18-97 (formerly Env-Ws 1101.19)

Env-Ws 1103.10 Food and Drink in the Bathing Area. Food and drink shall not be permitted in public bathing facilities or on the deck areas of such facilities.

Source. #6542, eff 7-18-97 (formerly Env-Ws 1102.04)

Env-Ws 1103.11 Fencing.

(a) All outdoor swimming pools shall have a wall, fence or other enclosure constructed around the entire pool or recreational area.

(b) The entire wall, fence or other enclosure, including doors and gates, shall be at least 4 ft. high measured on the inside and outside.

(c) The wall, fence or other enclosure shall prevent passage through it.

(d) All gates shall be self-closing and self-latching.

(e) The deck area between the pool and the fence or enclosure shall be in accordance with the following:

(1) The width of the deck area shall be a minimum of 4 feet;

(2) The deck area shall slope 1/4 inch per foot away from the pool;

(3) The surface of the deck shall be of a slip-resistant textured finish; and

(4) The surface of the deck shall be maintained in a sanitary fashion.

Source. #6542, eff 7-18-97 (formerly Env-Ws 1102.0)

Env-Ws 1103.12 Cross-Connection Control.

(a) Water service to public bathing facilities shall be protected against backflow and back siphonage.

(b) Water introduced to the facility either directly or through the circulation system shall be supplied through an air gap of at least 6 inches.

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(c) Vacuum breaker backflow preventers shall be installed prior to all hose bibs servicing public bathing facilities.

Source. #6542, eff 7-18-97 (formerly Env-Ws 1101.11)

Env-Ws 1103.13 Deck Cleaning.

(a) The deck area shall be maintained to be free of litter and obvious dirt.

(b) Hose bibs with vacuum breakers shall be provided to flush deck areas of public bathing facilities.

Source. #6542, eff 7-18-97

Env-Ws 1103.14 Water Quality Standards.

(a) A public bathing facility shall be considered unsafe for public use and closed to all such use if any of the following apply:

(1) There is any total coliform bacteria present in the water;

(2) The water contains a HPC of 500 or greater colony forming units per milliliter (cfu/mL); or

(3) There are 200 or greater Pseudomonas aeruginosa counts per 100 milliliters (CTS/100 mL).

(b) A bacteria retest shall be required if there are 200 or greater non-coliform bacteria counts per 100 mL (CTS/100 mL).

(c) Bacteriological quality of public bathing facility water shall meet the division's Env-Ws 300 regulations for drinking water.

(d) Pumps, filters, disinfectant feeders, flow indicators, gauges, and all related components of the recirculation system shall be kept in operation for the duration of one turnover time, the passage of a facility's volume of water through the recirculation system once, prior to and consistently during use of a public bathing facility.

Source. #6542, eff 7-18-97

Env-Ws 1103.15 Swimming Pools.

(a) Disinfection feed shall be by positive displacement pump type unit providing hypochlorination or by an erosion unit using either hypochlorite or bromine tablets with control of the erosion rate.

(b) Capacity of the disinfection unit shall be capable of feeding at a rate to permit a free residual chlorine concentration of 10 mg/L or 22.5 mg/L free residual bromine to be maintained in the pool.

(c) Free residual chlorine shall be 1-3 mg/L or 2-4 mg/L free residual bromine in the pool water when open to public use.

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- (d) The pH of the pool water shall be between 7.0 and 7.8.
- (e) Clarity of the pool water shall be such that the main drain is clearly visible at all times.
- (f) Heated pool water shall not exceed 104 EF (40 EC).
- (g) Gaseous chlorine shall not be permitted.

Source. #6542, eff 7-18-97

Env-Ws 1103.16 Spas.

- (a) Disinfection shall be achieved by continuous feed equipment.
- (b) Hypochlorite or bromine disinfection shall be used.
- (c) Capacity of the disinfection unit shall be capable of feeding at a rate to permit a free residual chlorine concentration of 10 mg/L (22.5 mg/L bromine) to be maintained.
- (d) Gaseous chlorine shall not be permitted.
- (e) Free residual chlorine or bromine in the spa water shall be 2-5 mg/L with an absolute maximum of 10 mg/L free residual chlorine or bromine when open to public use.
- (f) The pH of spa water shall be between 7.0 and 7.8.
- (g) Clarity shall be such that the deepest portion of the spa bottom shall be clearly visible when the water is calm.
- (h) Spa water temperature shall not exceed 104 EF (40EC).

Source. #6542, eff 7-18-97

Env-Ws 1103.17 Wading Pools.

- (a) Recirculated and flow-through type wading pools shall conform to the requirements of swimming pools as set forth in Env-Ws 1103.15.
- (b) The minimum rate of flow through the pool shall be 6 pool turnovers in 24 hours.
- (c) Disinfection of the pool water shall be in accordance with Env-Ws 1103.15.
- (d) Recreational features such as small slides and toy animals placed within wading pools shall not interfere with the proper water circulation of the wading pool.
- (e) Wading pools shall comply with the requirements of Env-Ws 1105.01 (k) (8) through (k) (13).

Source. #6542, eff 7-18-97 (from Env-Ws 1103.01)

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Env-Ws 1103.18 Non Circulated Wading Pools. Non-circulated wading pools shall be drained, cleaned and disinfected once daily.

Source. #6542, eff 7-18-97 (from Env-Ws 1103.02)

Env-Ws 1103.19 Flow-through Pools.

(a) Pool water derived from a municipal water supply or underground source and used in flow-through pools shall meet the division's rules for drinking water bacteriological quality required by Env-Ws 300.

(b) Pool water derived from surface supplies and used in flow-through pools shall meet the division's bacteriological quality requirements for Class B waters, as defined under RSA 485-A:8.

Source. #6542, eff 7-18-97

Env-Ws 1103.20 Semi-natural Bathing Places.

(a) Water in semi-natural bathing places shall meet the division's bacteriological quality requirements for Class B waters as defined under RSA 485-A:8.

(b) Semi-natural bathing places shall have a minimum of 2 gallons per minute of water flow per bather, based on the maximum expected bathing load.

Source. #6542, eff 7-18-97

Env-Ws 1103.21 Natural Bathing Places. Natural bathing places shall have a water quality that meets the division's requirements for Class B waters as defined under RSA 485-A:8.

Source. #6542, eff 7-18-97

Env-Ws 1103.22 Special Recreation Pools. Special recreation pools shall comply with the requirements of public swimming pools as set forth in Env-Ws 1103.15.

Source. #6542, eff 7-18-97

PART Env-Ws 1104 PUBLIC BATHING PLACE SUPERVISION AND SAFETY

Env-Ws 1104.01 Records to be Kept by the Operator.

(a) Tests for disinfectant residual and pH shall be taken prior to use of a public bathing facility and every 4 hours during operation.

(b) A water quality testing kit with fresh dated reagents capable of testing for free and total chlorine or bromine, pH and temperature, such as OTO (Orthotolidine) or DPD (Diethyl-P-Phenylene Diamine) tablets and reagents, shall be used for water quality testing by all public bathing facility operators.

(c) Heated public bathing facilities shall be tested for temperature prior to use and every 4 hours during

operation and results shall be recorded on the daily log sheet.

- (d) Test results shall be recorded on a dated daily log sheet.
- (e) Tests shall be made at the deep end and shallow end of a pool, and at one location in a spa.
- (f) The dates of filter backwashing or cartridge filter replacement shall be recorded on the daily log sheet.
- (g) Dates of emptying and cleaning of a spa shall be recorded on the log sheet.
- (h) Operation problems shall be recorded on the daily log sheet.
- (i) The operators of public bathing facilities shall maintain operational records for the previous twelve months and make these records available to the division and patrons of the public bathing facility upon request.

Source. #2872, eff 10-3-84; ss by #5045, eff 1-16-91; ss by #6420, INTERIM, eff 1-17-97, EXPIRES: 5-17-97

New. #6542, eff 7-18-97 (formerly Env-Ws 1104.06)

Env-Ws 1104.02 Supervision.

(a) Every public swimming pool, spa and special recreation pool shall be under the supervision of an operator or lifeguard knowledgeable in testing of the water and in operation of the water treatment equipment whenever a bathing facility is open for use, and this person shall maintain sanitary conditions throughout the facility and enforce the safety standards of the facility.

(b) At natural or semi-natural bathing places, a lifeguard or qualified person shall monitor conditions and enforce safety standards for the bathing place.

Source. #2872, eff 10-3-84; ss by #5045, eff 1-16-91; ss by #6420, INTERIM, eff 1-17-97, EXPIRED: 5-17-97

New. #6542, eff 7-18-97 (formerly Env-Ws 1101.12)

Env-Ws 1104.03 Safety.

(a) Patrons using public bathing places shall observe the following rules:

- (1) Persons suffering from a fever, cough, cold, inflammation of the eyes, nasal or ear discharges or any communicable disease as defined by RSA 141-C:2 shall not enter a public bathing place;
- (2) No person with sores or other evidence of skin disease, or who is wearing a bandage or medical covering of any kind shall be allowed use of any public bathing facility.
- (3) No person shall bring or throw into a public bathing facility any object that may in any way carry contamination or otherwise endanger the safety of bathers.

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- (4) No person shall spit in or in any other way contaminate a public bathing facility, its floors, walkways, aisles or dressing rooms.
 - (5) Patrons shall take a cleansing shower before entering public bathing facility water;
 - (6) Pollution of public bathing place water shall not be permitted;
 - (7) Boisterous rough play or running in the bathing area shall not be permitted;
 - (8) Food or drink shall not be permitted on decks or in the water of public bathing facilities; and
 - (9) Glass containers shall not be permitted on the deck, in the bathhouse, bathing area or water of public bathing facilities.
- (b) The operator shall be responsible for posting conspicuously displayed signs informing patrons of the rules in (a) above and any other safety rules developed by the bathing facility management.
- (c) In addition, the signs shall provide the location of the nearest telephone.
- (d) In addition to (a), (b) and (c) above, patrons using spas shall comply with the following rules:
- (1) A public spa shall not be used by a lone bather unless permitted by the operator;
 - (2) A public spa shall not be used by patrons under the influence of alcohol, anticoagulants, antihistamines, vaso constrictors, vasodilators, stimulants, hypnotics, narcotics or tranquilizers;
 - (3) Elderly patrons or patrons suffering from heart disease, diabetes, high or low blood pressure shall obtain permission from their physician before using a public spa;
 - (4) Unsupervised use by children under 14 years of age shall be prohibited;
 - (5) Patrons shall not use body oils or lotions;
 - (6) A break period for cooling off shall be taken after patrons use a public spa for 10-12 minute immersion;
 - (7) A clock shall be visible from all public spas.
- (e) In addition to (a), (b) and (c) above, swimming pools shall comply with the following:
- (1) Depth of water in feet shall be plainly and conspicuously marked at or above the waterline on the vertical pool wall and on the top of the coping or edge of the deck or walk next to the pool;
 - (2) Depth markers on surfaces used for walking shall be slip-resistant;
 - (3) Depth markers shall be installed at:
 - a. The maximum and minimum water depths;

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- b. All points of slope change; and
- c. Intermediate increments of water depth not to exceed 2 feet, nor spaced at distances greater than 25 foot intervals.

(4) Depth markers on irregularly shaped pools shall also designate depths at all major deviations in shape.

Source. #2872, eff 10-3-84; ss by #5045, eff 1-16-91; ss by #6420, INTERIM, eff 1-17-97, EXPIRED: 5-17-97

New. #6542, eff 7-18-97 (formerly Env-Ws 1102.09)

Env-Ws 1104.04 Safety Equipment.

(a) The following safety equipment shall be present at all swimming pools:

- (1) A light, strong pole not less than 12 feet long, including a body hook.
- (2) A minimum one-fourth inch diameter throwing rope as long as one and one-half times the maximum width of the pool or 50 feet, whichever is less, to which has been firmly attached a ring buoy with an outside diameter of approximately 15 inches or a similar flotation device.

Source. #2872, eff 10-3-84; ss by #5045, eff 1-16-91; ss by #6420, INTERIM, eff 1-17-97, EXPIRED: 5-17-97

New. #6542, eff 7-18-97

PART Env-Ws 1105 PUBLIC BATHING FACILITY DESIGN AND CONSTRUCTION FEATURES

Env-Ws 1105.01 Design and Construction Features of Swimming Pools.

(a) Minimum pool dimensions shall be as shown in Table 11.5.1 and Figure 11.5.1 below:

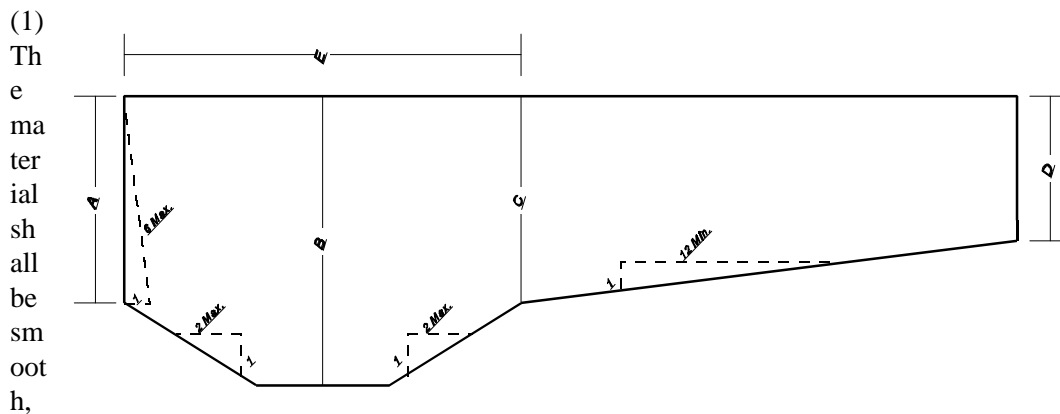
TABLE 11.5.1 Minimum Pool Dimensions

DIVING BOARD HEIGHT	A	B	C	D	E
No board	6' - 0" min.			2' - 0" to 3' - 0"	
Deck level board	6' - 0" min.	8' - 0" min.	5' - 0" min.	2' - 6" to 3' - 6"	22' minimum
1-meter board	6' - 0" min.	10' - 5" min.	5' - 0" min.	2' - 6" to 3' - 6"	30' minimum

3-meter board	6' - 0" min.	12' - 0" min.	5' - 0" min.	2' - 6" to 3' - 6"	35' minimum
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FIGURE 11.5.1 Minimum Pool Dimensions Diagram

- (b) Distance from diving boards to side walls shall not be less than 10 feet.
- (c) Distances between diving boards shall not be less than 8 feet.
- (d) Depth "A" in Table 1 shall apply to the end and side walls of the diving area measured from the water surface.
- (e) End or side walls of the diving area can be sloped as an alternative to vertical walls.
- (f) Swimming pools without diving areas shall have a floor slope not to exceed one foot vertical to 12 feet horizontal.
- (g) Swimming pools designed for lap training or water exercise shall have a water depth in the range of 3 to 5 feet. Diving areas or diving boards shall not be permitted in these pools.
- (h) Pools used for therapeutic medical treatment such as treatment of arthritic or muscular disabled patients shall have water quality, disinfection systems, materials, filters, and hydraulic systems in accordance with these rules. Floor configuration may vary from these rules due to the variety of depth needs unique to the usage of such pools.
- (i) Materials of construction for swimming pools shall comply with the following:



non-toxic and impervious, finished concrete or concrete block, steel, or fiberglass;

- (2) The pool bottom of the shallow area shall have a non-slip finish;
- (3) Plastic liners used in conjunction with any of the materials in (1) above shall be allowed;

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- (4) Asphalt, "black-top," and similar materials shall not be permitted; and
 - (5) The pool bottom shall have a light-colored finish.
- (j) A rope with attached floats shall be placed across public pools over the break in depth between the shallow and deep portions of the pool.
- (k) Hydraulic design and filter systems shall be in accordance with the following provisions:
- (1) The surface area of the pool shall provide 27 square feet of water surface per bather;
 - (2) Inlet spacing shall be a maximum of 20 feet, inlet to inlet, around the periphery of the pool or evenly spaced in the pool bottom. Inlets shall provide for uniform circulation and uniform disinfectant residual;
 - (3) A dual main drain shall be installed at the deep end of the pool;
 - (4) Each drain shall be tied to a common pipe through a Tee configuration;
 - (5) Each drain shall be at least 36 inches apart;
 - (6) Drain return piping shall be sized to take 100% of the recirculation;
 - (7) Normal operation flow shall be 50% through the drain(s) and 50% through the overflow system;
 - (8) Suction outlets shall be provided with a cover that has been tested and approved by a nationally recognized testing laboratory.
 - (9) Return inlet(s) from the circulation system shall be designed so as not to constitute a hazard to the user.
 - (10) Public swimming pools shall not be operated if an outlet grate is missing, broken or secured in such a way that it can be removed without the use of tools.
 - (11) All public swimming pools shall be provided with main drain suction outlet(s) in the lowest point of the pool floor.
 - (12) The spacing of the main drain(s) for suction outlets shall not be greater than 20 feet on center(s) nor more than 15 feet from each side wall.
 - (13) If the suction outlet system has a single suction outlet, or multiple suction outlets that can be isolated by valves, each suction outlet shall protect against user entrapment by:
 - a. An antivortex cover;
 - b. A 12 inch by 12 inch (or larger) grate; or
 - c. Other means.

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- (14) Gutter systems shall be constructed to provide overflow return around the entire periphery of the pool;
- (15) There shall be a minimum of one skimmer for 800 square feet of pool surface or fraction thereof and no less than 2 skimmers provided;
- (16) Skimmers shall be located on the downwind side, based on prevailing winds;
- (17) All skimmers shall:
 - a. Be equipped with an equalizer pipe, at least 2 inches in diameter and located at least one foot below the lowest level of the weir; and
 - b. Have the equalizer so designed as to open when a differential in head of 4 inches or more occurs between actual water level and maximum water level as determined by weir lip elevation;
- (18) Skimmer systems shall be allowed on pools over 1800 square feet in area, provided that:
 - a. At least 50 percent of pool water can be returned via the skimmers; and
 - b. Skimmer location relative to inlets achieves effective skimming;
- (19) All filter systems shall include the following:
 - a. Strainers;
 - b. A rate-of-flow meter;
 - c. A set of instructions for the operation and maintenance of the system; and
 - d. A minimum recirculation flow rate of one pool water turnover per 8 hours;
- (20) Pressure-type sand filters shall comply with the following:
 - a. For low rate rapid sand filters, the flow rate shall not exceed 3 gallons per minute per square foot of filter area;
 - b. Low rate rapid sand filter media shall have an effective size of 0.4 - 0.55 millimeters, and a uniform size coefficient of 1.45 - 1.75;
 - c. For high rate rapid sand filters, the flow rate shall not exceed 15 gallons per minute per square foot of filter area;
 - d. Filter media for high rate filters shall be 0.35 - 0.45 millimeters, with a uniform coefficient of 1.45 - 1.70;
 - e. Filter gravel shall be 1/8 - 1/4 inches in size;

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- f. Back wash flow rates shall be 10 - 15 gallons per minute per square foot of filter area; and
- g. Sand depth shall be a minimum of 24 inches;

(21) Diatomaceous earth pressure or suction filters shall comply with the following:

- a. The flow rate shall not exceed 2.5 gallons per minute per square foot of filter area; and
- b. Filter piping shall provide for recirculation through the filter only or be capable of selection to discharge to waste;

(22) Cartridge-type filters shall comply with the following:

- a. Filter flow rates shall not exceed 0.375 gallons per minute per square foot of filter media;
- b. Cartridge filters shall be cleaned or disinfected when the pressure differential between the influent and effluent lines of the filter reaches 6 psi or the manufacturer's recommended pressure differential. If no means of measuring the pressure differential is provided, the filters shall be changed or cleaned and disinfected at least once per day; and
- c. Cartridge-type filters shall be replaced in response to a violation of Env-Ws 1103.14; and

(23) Filter backwash and wastewater disposal shall be as follows:

- a. The disposal of sanitary sewage shall be into a sanitary sewer or septic tank system; and
- b. Backwash water shall be discharged into a sanitary sewer through an air gap of not less than one inch or a subsurface disposal system; and
- c. When a public bathing facility is drained by discharge to a municipal sewer, the free disinfectant residual shall not exceed 3 mg/L chlorine or bromine.

Source. #2872, eff 10-3-84; ss by #5045, eff 1-16-91; ss by #6420, INTERIM, eff 1-17-97, EXPIRED: 5-17-97

New. #6542, eff 7-18-97

Env-Ws 1105.02 Design and Construction Features of Public Spas.

(a) The selection of all materials for components and accessories to be used in and around spas shall be such that all parts with external surfaces and edges that may come in contact with the user are assembled, arranged, and/or finished so that they will not constitute a cutting, pinching, puncturing, or abrasion hazard under casual contact.

(b) The selection of component and accessory materials to be used in and around spas shall be such that the assembled and installed product shall not be toxic to man or harmful to the environment and shall be chemically compatible with the materials and environment contacted under intended use.

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- (c) The maximum water depth shall be 4 feet.
- (d) The maximum depth of any seat or bench shall be 2 feet measured from the water line.
- (e) The floor slope shall not exceed 1 foot in 12 feet.
- (f) Spa surfaces shall be smooth, abrasion free, readily cleanable, and slip-resistant where intended for footing.
- (g) Spas shall be provided with suitable handholds around their perimeter in areas where water depths exceed 3 feet 6 inches.

Source. #2872, eff 10-3-84; ss by #5045, eff 1-16-91; ss by #6420, INTERIM, eff 1-17-97, EXPIRED 5-17-97

New. #6542, eff 7-18-97 (from Env-Ws 1104.04)

Env-Ws 1105.03 Hydraulic Design.

- (a) Inlets and drains shall provide for uniform circulation and uniform disinfectant residual.
- (b) Inlets and drains for public spas shall comply with the following:
 - (1) One inlet shall be provided for each 20 feet of spa perimeter, with a minimum of 2 inlets;
 - (2) A minimum of one drain shall be provided at the lowest point;
 - (3) The drain shall be designed to prevent patron hazard or entrapment as follows:
 - a. Spa suction outlets shall be provided with a cover that has been tested and accepted by a nationally recognized testing laboratory;
 - b. Public spas shall not be used or operated if the suction outlet fitting is missing, broken or loose; and
 - c. If the suction outlet system has a single suction outlet, or multiple suction outlets that can be isolated by valves, each suction outlet shall protect against user entrapment by:
 - 1. An antivortex cover;
 - 2. A 12 inch by 12 inch (or larger) grate; or
 - 3. Other means;
 - (4) The total velocity through drainage grate openings shall not exceed 2 feet/second; and
 - (5) Piping of the drain outlet shall be capable of 100% of the recirculation.

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(c) All public spas shall comply with the following requirements:

- (1) All public spas shall be operated with a continuous overflow;
- (2) Where surface skimmers are used, the flow rate through the skimmers shall be designed to provide 50-80% of the total turnover rate with a maximum flow through any single skimmer of 30 g.p.m.;
- (3) The minimum acceptable width for the intake throat of a skimmer, measured at the weir location, shall be 5 inches;
- (4) Where surface skimmers are used as the sole overflow system, one surface skimmer shall be provided for each 100 square feet or fraction thereof of the spa's surface area. If a conflict arises between (1) and this subparagraph, the subparagraph requiring the greatest number of skimmers shall apply; and
- (5) When two or more skimmers are used in a spa, they shall be located so as to maintain effective skimming action over the entire surface area of the spa.

(d) Public spas shall have recirculation and filtration systems with piping, pumps, filters, disinfection and other equipment which maintain spa pool water quality in accordance with Env-Ws 1103.16 and the following:

- (1) The system of pumps, filters, disinfection facilities and other equipment shall be sized to recirculate, filter and disinfect the entire volume of spa water within 30 minutes;
- (2) A hair strainer and rate-of-flow meter shall be provided;
- (3) Public spa recirculation systems shall be separate from companion swimming pools; and
- (4) A set of instructions for the operation and maintenance of the system shall be provided to the operator.

Source. #2872, eff 10-3-84; ss by #5045, eff 1-16-91; ss by #6420, INTERIM, eff 1-17-97, EXPIRED: 5-17-97

New. #6542, eff 7-18-97 (from Env-Ws 1104.05)

Env-Ws 1105.04 Design and Construction Features for Special Recreation Pools.

- (a) The water depth at the end of the flume shall be 3 feet and maintained for 20 feet minimum straight distance from the end of the flume.
- (b) A safe entrance and exit into and from the special recreation pool water shall be provided.
- (c) There shall be a minimum distance of 5 feet between the slide and side wall and 6 feet between slides of multiple units.
- (d) Materials for special recreation pools shall be in accordance with Env-Ws 1105.01(i).
- (e) The depth of the special recreation pool shall be clearly marked and displayed in accordance with Env-Ws 1104.03 (e).
- (f) Hydraulic design and filter systems shall comply with the following requirements:
 - (1) Pump intakes shall be in a reservoir separate from the receiving pool;
 - (2) Inlet spacing shall be a maximum of 20 feet, inlet to inlet, around the periphery of the pool or evenly spaced in the pool bottom;
 - (3) Inlets shall provide for uniform circulation and uniform disinfectant residual;
 - (4) Main drains shall be installed at the deepest point of the pool and shall provide for the following:
 - a. Drain return piping shall be sized to take 100% of the recirculation;
 - b. Normal operation flow shall be 50% through the drain(s) and 50% through the overflow system; and
 - c. Special recreation pools shall comply with the requirements of Env-Ws 1105.01 (k) (8) through (k) (13);
 - (5) Gutter systems shall be constructed to provide overflow return around the entire periphery of the pool;
 - (6) For skimmer systems, there shall be a minimum of one skimmer for 800 square feet of pool surface or a fraction thereof and no less than 2 skimmers shall be provided;
 - (7) All skimmer systems shall be equipped with an equalizer pipe, at least 2 inches in diameter and located at least one foot below the lowest level of the weir;
 - (8) The equalizer pipes shall be so designed as to open when a differential in head of 4 inches or more occurs between actual water level and maximum water level as determined by the skimmer weir lip elevation;

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- (9) Skimmer systems shall be allowed on pools over 1800 square feet in area, provided that:
 - a. At least 50% of the water can be returned via the skimmers; and
 - b. Skimmer location relative to inlets achieves effective skimming;
- (10) All filter systems shall include the following:
 - a. Strainers;
 - b. A rate-of-flow meter; and
 - c. A set of instructions for the operation and maintenance of the system;
- (11) Recirculation flow rates shall be one turnover per hour;
- (12) Pressure-type sand filters shall comply with the following requirements:
 - a. For low rate rapid sand filters, the flow rate shall not exceed 3 gallons per minute per square foot of filter area;
 - b. Low rate rapid filter media shall have an effective size of 0.4 - 0.55 millimeters, and a uniform size coefficient of 1.45 - 1.75;
 - c. For high rate rapid sand filters, the flow rate shall not exceed 15 gallons per minute per square foot of filter area;
 - d. Filter media for high rate filters shall be 0.35 - 0.45 millimeters, with a uniform size coefficient of 1.45 - 1.70;
 - e. Filter gravel shall be 1/8 inch - 1/4 inches in size;
 - f. Back wash flow rates for sand filters shall be 10 - 15 gallons per minute per square foot of filter area; and
 - g. Sand depth shall be a minimum of 24 inches;
- (13) Diatomaceous earth pressure or suction filters shall provide for the following:
 - a. The flow rate shall not exceed 2.5 gallons per minute per square foot of filter area; and
 - b. Filter piping shall provide for recirculation through the filter only or capable of selection to discharge to waste;
- (14) Cartridge type filter flow rates shall not exceed 0.375 gallons per minute per square foot of filter media; and
- (15) Filter backwash wastewater disposal shall be as follows:

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- a. The disposal of sanitary sewage shall be into a sanitary sewer or a septic tank system; and
- b. Backwash water shall be discharged into a sanitary sewer through an air gap of not less than one inch or a subsurface disposal system.
- c. When a public bathing facility is drained by discharge to a municipal sewer, the free disinfectant residual shall not exceed 3 mg/L chlorine or bromine.

Source. #2872, eff 10-3-84; ss by #5045, eff 1-16-91; ss by #6420, INTERIM, eff 1-17-97, EXPIRED: 5-17-97

New. #6542, eff 7-18-97